

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
30 August 2001 (30.08.2001)

PCT

(10) International Publication Number
WO 01/62164 A3

(51) International Patent Classification⁷: **A61B 17/115**,
17/072, 17/11

(21) International Application Number: PCT/US01/05445

(22) International Filing Date: 21 February 2001 (21.02.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/510,927 22 February 2000 (22.02.2000) US

(71) Applicant: **POWERMED, INC.** [US/US]; P.O. Box
1021, Washington's Crossing, PA 18977 (US).

(72) Inventor: **WHITMAN, Michael, P.**; 16 Pheasant Run,
New Hope, PA 18938 (US).

(74) Agents: **BIRDE, Patrick, J.** et al.; Kenyon & Kenyon,
One Broadway, New York, NY 10004 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

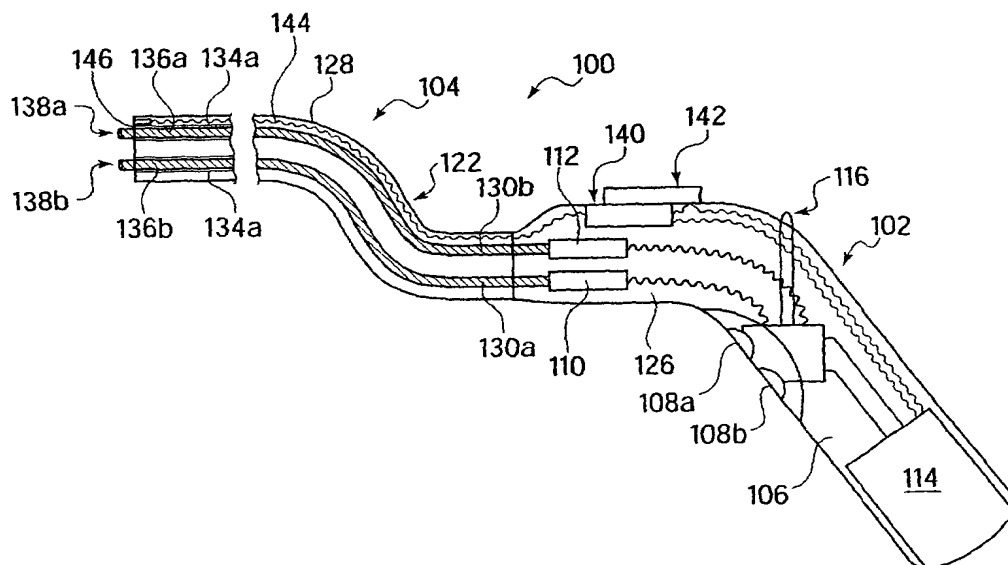
Published:

— with international search report

(88) Date of publication of the international search report:
3 January 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AN ELECTROMECHANICAL DRIVER AND REMOTE SURGICAL INSTRUMENT ATTACHMENT HAVING COMPUTER ASSISTED CONTROL CAPABILITIES



(57) Abstract: A medical tool comprising an electromechanical driver and a surgical instrument attachment for use in invasive surgery, including a handle coupled to a flexible sheath which is in turn coupled to a surgical attachment. The handle of the driver includes the electromechanical driver and at least one processor element which controls the actions of the electromechanical driver, and therefore the application elements of the surgical attachment, based on information relayed between the processor element and remotely activatable sensor assemblies in the surgical instrument attachment.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/05445

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B17/115 A61B17/072 A61B17/11

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 582 611 A (TSUKAGOSHI TSUYOSHI ET AL) 10 December 1996 (1996-12-10) column 37, line 19 - line 44; figures 113,114	6,8,14
A	---	1,2,5
Y	US 5 667 517 A (HOOVEN MICHAEL DAWSON) 16 September 1997 (1997-09-16) column 4, line 43 - line 62; figure 3 column 7, line 52 -column 8, line 15; figure 17 figure 11	1-6,8-14
Y	US 5 460 182 A (GOLDBERGER DANIEL S ET AL) 24 October 1995 (1995-10-24) column 8, line 13 - line 29; figure 1A --- -/--	1-6,8-14

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

* & * document member of the same patent family

Date of the actual completion of the international search

3 September 2001

Date of mailing of the international search report

12/09/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Ducureau, F

INTERNATIONAL SEARCH REPORT

Intern: al Application No

PCT/US 01/05445

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	<p>WO 00 72765 A (POWERMED INC) 7 December 2000 (2000-12-07) page 12, line 30 -page 15, line 12; figure 3</p> <p>-----</p>	1-14

INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern. Application No

PCT/US 01/05445

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5582611 A	10-12-1996	JP 5317320 A	03-12-1993
		JP 5317323 A	03-12-1993
		JP 5329167 A	14-12-1993
		JP 5337120 A	21-12-1993
		JP 5337119 A	21-12-1993
		JP 6030944 A	08-02-1994
		US 5389098 A	14-02-1995
		JP 6030945 A	08-02-1994
US 5667517 A	16-09-1997	US 5383880 A	24-01-1995
		US 5518163 A	21-05-1996
		US 5518164 A	21-05-1996
		AT 192639 T	15-05-2000
		AU 670051 B	04-07-1996
		AU 3117893 A	22-07-1993
		CA 2087221 A	18-07-1993
		DE 69328576 D	15-06-2000
		DE 69328576 T	04-01-2001
		DK 552050 T	07-08-2000
		EP 0552050 A	21-07-1993
		ES 2146216 T	01-08-2000
		GR 1001562 B	29-04-1994
		JP 6007357 A	18-01-1994
		PT 552050 T	31-08-2000
		US 5433721 A	18-07-1995
US 5460182 A	24-10-1995	US 5772597 A	30-06-1998
		US 5769791 A	23-06-1998
		US 5785658 A	28-07-1998
		US 5762609 A	09-06-1998
		US 5807261 A	15-09-1998
WO 0072765 A	07-12-2000	AU 5461200 A	18-12-2000